Hydrologic Model Manager

Short Name	ARC/EGMO-Hydrologic Modeling System
Long Name	
Description	
Model Type	Distributed dynamic model
Model Objectives	(1) To develop a modeling system and tool box at river basin scales (meso- and macro-scales), (2) to quantify the effect of land use change and climate change on catchment hydrology, (3) to apply different spatial disaggregation schemes, and (4) to assess the spatial and temporal variability of different hydrologic processes.
Agency Office	Potsdam Institute for Climate Impact Research, Potsdam, Germany
Tech Contact	Dr. A. Becker
Model Structure	The model has a modular structure permitting to activate various component models (modules) which describe the corresponding individual processes. It is coupled to a GIS, such as ArcInfo/ArcView, permitting to use GIS maps in the process of disaggregating a basin into areal units. The model has major modules for horizontal processes, vertical processes, basin disaggregation, land use cover, GIS ArcInfo, routing, and so on. Within each module, there are major component process models.
Interception	
Groundwater	
Snowmelt	
Precipitation	
Evapo-transpiration	
Infiltration	
Model Paramters	Most parameters are determined from physical measurements and the number of parameters depends on the basin disaggregation.
Spatial Scale	Elementary areal unit or grid size
Temporal Scale	Daily
Input Requirements	Hydrometeorological data, rainfall, land use cover maps, soils maps, and basin maps
Computer Requirements	Large computer but also PC with windows
Model Output	Discharge hydrograph
Parameter Estimatn Model Calibrtn	Calibration of some parameters by optimization
Model Testing Verification	Tested on several basins in Germany (5 to 20,000 square kilometers)
Model Sensitivity	Not reported
Model Reliabiity	Not reported
Model Application	Saale River basin (24,000 square kilometers) and Stepenitz basin in Germany
Documentation	Not available in public domain but it can be obtained from Dr. A. Becker.
Other Comments	The model is well designed and its architecture is commendable. Ithas the potential to be popular model around the globe.

References:

Becker, A. and Pfutzner, B., 1987. EGMO-Systems approach and subroutines for river basin modelling. Acta Hydrophysica, Berlin, Bd 31, H. ¾.

Becker, A. and Nemec, J., 1987. Macroscale hydrologic models in support of climate research. IAHS Publication No. 168, pp. 431-446.

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Developer	
Technical Contact	
Contact Organization	